

together. A fiber used in the pumping section 182 has a core member 186 doped with the active laser ion and a relatively high NA, preferably 0.22 or greater and a pump cladding 185. A fiber used in the mode control section 184 has a core member 188 which may or may not be doped with the active laser ion and has a low NA, preferably less than 0.1. The fiber of the mode control section 184 has a mode control cladding 187. Pump light from a pump laser diode 189 is coupled into a free end 190 of the pumping section 182. The low NA of the mode control section 184 permits a fiber laser or amplifier using this invention to maintain single mode output while using multimode fiber in the pumping section 182. The larger core size offers single mode output at higher power without the damage problems or nonlinear effects that might occur in a smaller core fiber at the same power level. Some care must be taken with the mounting and routing of the fiber in the pumping section 182 to avoid inducing stresses that might cause some of the propagating energy to couple into higher order modes which would be stripped by the mode control section 184.

In The Claims

Please replace claim 27 as shown below. A marked up version of the amended claim is attached to this Amendment.

27. (Amended) The device as claimed in claim 9 wherein the device is formed as a pair of separate waveguides which are butt-coupled or coupled together by an imaging system.